

# ZM2PG

Robust air cooled probe for Zeromag

**DIVERSE**

www.diverse-technologies.net

## Overview

The ZM2PG Zeromag probe is used with Zeromag demagnetisers (ZM100A, ZM100A-33 or ZM50) for the measurement of the magnetic field in the weld preparation. The probe can either be used in manual mode, which means that after nulling the field the probe is removed, or, automatic mode in which case the probe remains in the weld prep during welding.

Operation close to the torch, or indeed in an environment where additional preheat is used, is unsuitable for delicate semiconductor magnetic field measurement devices.

To overcome the high temperature issue, the Diverse ZM2PG probe is constructed in stainless steel and has an air pathway that can be fed by a pressurised air from an airline (or inert gas). This airflow maintains the sensor within reasonable operating limits. The airline is attached using a standard pneumatic connector and a 2 bar pressure regulator is used to prevent over pressure in the probe. Air is out-gassed through an exhaust unit in the base of the probe and directed away from the weld area ensuring that no air cooling is directed at the weld.

When using robot welders, then the probe is normally attached to the same mechanics as the torch and is arranged to traverse about 50mm ahead of the torch. The ZM2PG base has pre-drilled attachment holes to facilitate mounting to the robot.

The ZM2PG probe is supplied with a 3 metre cable which is sufficient for handling most small jobs. For larger jobs there is an extension cable, the ZM2PE, that extends the cable by a further 3 metres. Additional ZM2PE extension cables can be added for extra large jobs.



## Features

- Magnetic field measurement in harsh environment
- Active air cooling using standard airline
- Single protected umbilical carries electrical signals and air cooling
- Robust press and pull connector
- Mounting facilities for robot welders
- Rugged stainless steel construction
- Standard 3m cable
- Extension cables add in increments of 3m
- Use any ZM2PG probe with any Zeromag



## ZM2PG: Performance Specification

Magnetic field Measurement range	+/-1800 Gauss typical
Magnetic field resolution	1 Gauss
Power and signal conditioning	Processed in the Zeromag demagnetiser unit
Probe tip width	4.5mm
Air supply	>2 bar - regulated on the manifold
Air exit	Air exhaust dispersing unit which directs air away from the weld
Air connection	Standard pneumatic connector
Material body	Stainless steel
Electrical connection	The body of the probe is connected electrically to the earth in the Zeromag unit. It is important to ensure that this connection does not divert current from the welder earth return
Thermal break	If operating with preheat, probe contact with the weld job should be minimised to reduce thermal transfer
Auto welders/bots/robot welders	Deployment mounting on the probe base
Environmental	Ambient temperature -20C to 50C Humidity 0-90% non condensing Air cooling required for operation above 50C
Temperature - storage	-40C to 85C
Weight	0.7kg
Probe dimensions LxWxH	Body 185 x 35 x 15mm Tip 20 x 4.5mm
Support	Call/email Diverse for support for use of the ZM2PG and Zeromag equipment for different weld scenarios

